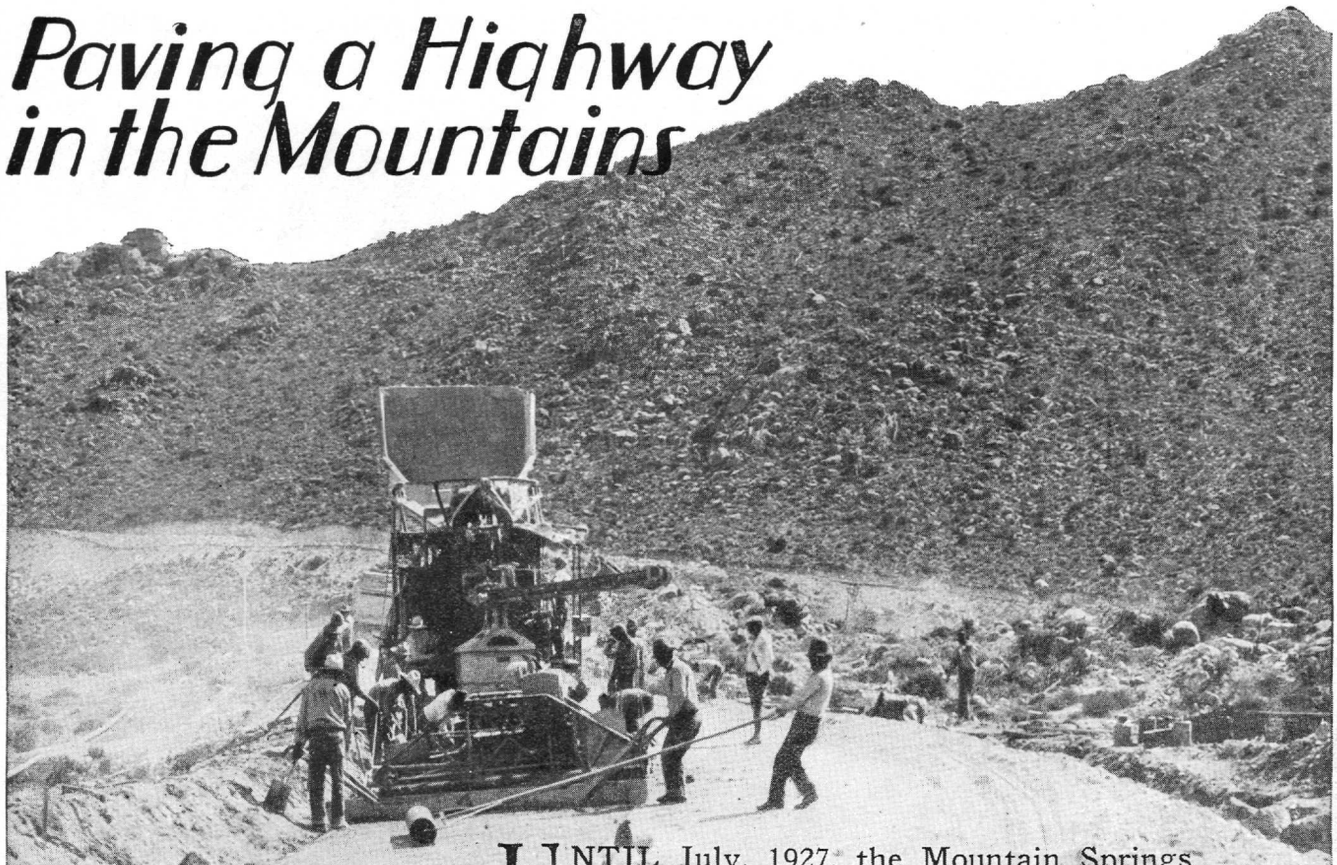
Paving a Highway in the Mountains



UNTIL July, 1927, the Mountain Springs grade was a treacherous ten miles of rocky trail which led out of the Imperial Valley into the mountains of San Diego, California. At that time a concrete highway, 20 feet wide and 7.2 miles in length, was completed. Its elevation variance is approximately 1800 feet making an average grade of 7% with super-elevated curves and a continuous series of alternating reverses.

Unusual conditions — preparing a grade from solid rock formation, long haul of materials, temperature as high as 122° — demanded rugged, dependable equipment. That's one reason why the Koehring Heavy Duty Shovel did all the excavation work — traveling over uneven rock formation.

At the stock pile and batcher bin a Koehring Heavy Duty Crane handled the crushed rock and sand while on the grade a Koehring Heavy Duty Paver mixed the dominant strength concrete, — a complete Koehring-equipped job.

"Concrete — Its Manufacture and Use," a complete treatise and handbook on present methods of preparing and handling portland cement concrete, will be gladly sent on request to engineering students, faculty members and others interested.

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PHILADELPHIANS who use the new Broad Street Subway now travel the seven miles from Olney Street to South Street in less than 20 minutes; a trip that formerly took 45 minutes. There is an extra hour of freedom every day for those who use this new route to travel to and from business.

The operating conditions imposed on cars by a rapid transit subway system of this kind are unusually severe and require careful and special design of the electrical equipment. The 150 modern subway cars, 67 feet long, powered by two 210-horsepower Westinghouse motors and controlled by Westinghouse equipment, that operate in this subway are a notable achievement in electrical engineering. Westinghouse takes pride in the fact that it was called on to furnish this equipment.

Big jobs go to big organizations. Westinghouse attracts young men of enterprise and genius because it daily provides opportunities that smaller corporations can seldom offer.

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The Broad Street Subway was built by the City of Philadelphia at a cost of more than $100,000,000. The 150 cars that serve this subway have motors, control, switch panels, fans and battery charging equipment designed, built and installed by Westinghouse. The story of some of the conditions facing the engineers on this job, and how they were overcome, may be found in an article in Electrical Railway Journal for June 9, 1928.

Westinghouse

Completely electrified—
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Completely electrified—quiet, vibrationless, luxurious, swift—the S.S. *California,* largest American-built passenger ship, has opened a new era of ocean travel.

Two turbine-generators, each rated at 6600-kw., supplying power to two main propulsion motors, constitute the turbine-electric drive, used for the first time in a large passenger ship. Four turbine-driven 500-kw. d-c. generators supply power for auxiliary equipment which aids in the operation of the ship and adds to the comfort of passengers.

Complete electrification makes the *California* an engineering marvel and a commercial success; it is booked far in advance, a sister ship has just been launched, and another is under construction.

College-trained men of the General Electric Company, which engineered the electric power installation on these luxurious passenger ships, have thus played a significant part in the opening of a new era of ocean travel.

This monogram is found on great motors that drive the *California,* and on a multitude of electric appliances which contribute to the comfort of her passengers. It is an emblem of skilled engineering and high manufacturing quality.

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